

Arboricultural Impact Assessment

Land at
The Walker Fan House
Ruabon
Wrexham

Ref:
AIA/WFH/12/16

Date:
13th December 2016

Commissioned by:
Mr D. Edwards
on behalf of
Blueprint Architectural LTD

Prepared by
S. Shields

Arboricultural Impact Assessment

The Walker Fan House

Ruabon

Wrexham

This Arboricultural Impact Assessment has been prepared in accordance with the protocols, standards and procedures set out in BS 5837: 2012 'Trees in relation to design, demolition and construction'.

Summary

Planning permission is being sought to develop the site to provide residential housing as an enabling development to allow the restoration of the existing Walker Fan House building on the site.

There are a number of trees and shrubs on and adjacent to the site and an arboricultural assessment of the site has been undertaken in accordance with the procedures and protocols set out in BS 5837: 2012. This assessment has identified and recorded three individual trees and six groups of trees, which are categorised as 4 cat. B (moderate value) 3 cat C (low value) and 2 cat. U (unsuitable for long term retention).

The proposed layout will require the removal of one of category B individual tree (T6), and four groups of trees (G2, G3, G4 & G5) one category C, one category B and two category U. A small number of trees from G7 will also be removed where they are compromised by the adjacent road and car park. The trees for removal are not particularly significant specimens in terms of their public amenity value.

To mitigate the impact of tree loss associated with this development a tree planting scheme will form part of the landscaping of the provided as part of the new development. There is opportunity to undertake tree planting in the soft landscape area along the south boundary of the site adjacent to the road, which is in a prominent position that will contribute to the local landscape and provide a degree of screening for the site. There is also an opportunity to undertake enrichment planting to strengthen G7 as well as some additional new planting within the site. Any grant of planning permission can be conditional to a detailed landscape scheme being prepared and submitted.

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Instruction

- 1.1 Shields Arboricultural Consultancy received instructions from Mr D. Edwards on behalf of Blueprint Architectural Ltd, to undertake an Arboricultural Impact Assessment at the above location. The client or their agents may copy and distribute this report as required for the purpose of applying for planning permission for or preparing any documents or plans for this or future applications at this site.
- 1.2 Planning permission is being sought to develop the site to provide residential housing as an enabling development to allow the restoration of the existing Walker Fan House building on the site.

Scope & Limitations

- 2.1 The purpose of the report is to assess the environmental and amenity values of all trees on or adjacent to the area affected by the proposed development. The report will assess the long-term contribution that the trees can make to the area and the arboricultural implications of retaining them and seek to find a satisfactory juxtaposition between the trees and the new development. The report will assess the potential impact that may arise as a result of the proposed construction works and make recommendations for protecting trees, hedges and shrubs where appropriate
- 2.2 The report is prepared in accordance with the recommendations of the British Standard Document BS 5837: 2012 'Trees in Relation to Construction'.
- 2.3 This report is not an ecological assessment and does not identify habitats or constitute a protected species survey.

Statutory Controls & Obligations

- 3.1 Forestry Act; the felling of trees is controlled by the Forestry Act, which requires that a felling licence is obtained prior to cutting down any trees. The Forestry Act does not apply to the felling of trees growing within an orchard, private garden, churchyard or public open space. The Forestry Commission has the responsibility for enforcing the Forestry Act.
- 3.2 Tree Preservation Orders & Conservation Areas; Local Authorities have specific powers under the Town & Country Planning Act 1990 as amended, to protect trees through the use of Tree Preservation Orders. Where trees are protected under such orders it is a criminal offence (subject to any exemptions for which provision may be made by the act or order) to undertake, cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of trees except with the consent of the local planning authority. Similar controls apply to all trees growing within a designated Conservation Area.
- 3.3 Bats, wild birds and other protected species; The Wildlife & Countryside Act & the Conservation (Natural Habitats & C.) Regulations make it an offence to disturb or destroy bats and bat roosts and wild birds and their nests. Other species of plant and

animal are also protected. These creatures often inhabit trees and sufficient care must be taken to ensure they are not affected during forestry and arboricultural works.

Site description

- 4.1 The site comprises a narrow strip of land situated between the B5605 and the main Shrewsbury – Wrexham railway line. The remains of the historic Walker Fan House building occupy a large portion of the site, although there is a residential bungalow and static caravan in the north-east section. The site extends to approximately 0.5 ha and is reasonably level, although at a lower level than the adjacent road.
- 4.2 There are a number of trees on the site, the majority of which are self-set specimens that are beginning to establish across the site.



Soils

- 4.3 Most the site is occupied by the existing building or is under hard standing. Where soft landscape is present, soils appear to be free draining. Geological maps indicate a till drift over sandstone.

*NB. This soil assessment is undertaken in situ using visual and manual techniques and is **only** for the purpose of establishing the influence of site soils on tree growth. The assessment **must not** be relied upon to inform any engineering decisions.*

Development Proposal

- 5.1 It is proposed to develop the site to provide residential housing units along with associated infrastructure, site roads and parking along with a new site entrance and to restore the existing historic building.



Tree Survey Methodology

- 6.1 All trees within and adjacent to the site have been assessed where they are within 15 m of any area that may be disturbed as a result of the proposed development and have a stem diameter over 75mm at 1.5 metres. Measurements have been taken in accordance with the procedures and protocols set out in BS 5837: 2012 and the Forest Mensuration Handbook. Height measurements are approximate unless otherwise stated. Trees have been assessed as individuals, groups or woodlands as appropriate. Where access to trees has been restricted, either as a result of their situation on private land or where vegetation or ground conditions are unfavourable, an estimation of trunk diameter has been made. This entails using a set of callipers to approximate the measurement. Estimates are rounded up to provide a margin. This technique has only been used where there is a sufficient buffer between the RPAs and any area disturbed by development. Where trees are in woodlands or groups only the outside edge trees are assessed unless there are larger trees with RPAs or crowns that would overlap the edge trees.
- 6.2 BS 5837: 2012 provides the framework through which tree can be categorised in terms of their health, amenity value and long-term viability for retention on a development site. There are four categories, A,B,C & U.

Category A: Trees of high quality and value in such a condition as to be able to make a substantial contribution (a minimum of 40 years)

- 1 Trees that are particularly good examples of their species, or essential components of groups or formal arboricultural features.
- 2 Trees, groups or woodlands that provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance.
- 3 Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

Category B: Trees of moderate quality and value in such a condition to make a significant contribution (a minimum of 20 years)

- 1 Trees that might be included in a higher category but are downgraded because of impaired condition.
- 2 Trees present in numbers, usually as groups of woodlands that form distinctive landscape features.
- 3 Trees with clearly identifiable conservation or other cultural benefits.

Category C: Trees of low quality and value currently in adequate condition to remain until new planting could be established. Trees in this category would not usually be retained if they would pose a significant constraint to development.

Category U: Trees in such a condition that their existing value would be lost within 10 years and which should, in the current context be removed for arboricultural reasons.

The most significant or valuable trees are placed in the categories, A & B. Site design should make provision to retain trees in these categories and most Local Planning Authorities will insist upon this (or in exceptional circumstances will require that significant compensation planting is incorporated into the design), whilst trees that should not be a constraint to development are recorded with a C category. Trees categorised as U are in a poor condition and should be removed prior to the commencement of work.

- 6.3 Where trees are to be retained, it is necessary to ensure that they are suitably protected to avoid damage during the construction phase of the development. It is also important to consider any long term implications; such as issues with shading or leaf litter that may arise as a result of tree retention.
- 6.4 To ensure that trees are not adversely affected by the construction works it is necessary to:
 - a. The avoidance of physical damage to the aerial parts of the trees (i.e. Impact and other damage to trunk and branches)
 - b. The avoidance of damage to retained trees as a result of the severance or other physical damage to their roots

- c. Preserve of the character of the soil, through the avoidance of any activity that would cause it to become compacted or otherwise disturbed or disrupted, and to avoid contamination by potentially harmful substances
- d. To ensure free gaseous exchange is permitted between the upper layers of soil and the atmosphere
- e. To ensure adequate (but not excessive) water supply to the soil and hence to tree roots

This would normally be achieved by establishing an area, known as a construction exclusion zone (CEZ) around each tree. The CEZ is derived from the root protection area (RPA) and the crown spread of the tree. The RPA represents the area occupied by the tree's root system and is calculated for each tree based on its stem diameter and the ground conditions present taking account of and any impediment to rooting. The RPA should represent the most probable position of the tree's root system.

The CEZ must be considered sacrosanct and be maintained completely undisturbed. No construction should take place within this area and it should not be used for storage of materials or fuels. Access for vehicles machinery or personnel is prohibited and to ensure that it is not damaged by construction activity it must be suitably protected during the construction phase, using robust fencing or alternative ground protection methods, to prevent disturbance and damage occurring.

- 6.5 In addition to the implications that a new development may have for existing trees it is also important to assess any long term issues or concerns that may arise as a result of retaining trees close to a new dwelling or structure. This can include problems associated with leaf litter and other debris that may fall from trees, the potential that a tree has to cause damage to a structure in the future, any on-going maintenance requirements that may arise and the level of shade that the tree may cast, it is particularly important to consider the effects of shading where trees are to the south of houses and gardens. Trees can also cause feelings of apprehension to the occupiers of nearby buildings and can have an over bearing impact on a property if adequate space is not provided.
- 6.6 The report assesses all trees with regard to their size, position and natural characteristics, and taking into account of their future growth makes provides recommendations as to their long term suitability for retention.

Arboricultural Assessment

- 7.1 Full details of the tree surveyed are provided in appendix A. and their relative positions, crown spreads, root protection areas are indicated on the attached plans.

- 7.2 No checks have been undertaken to establish the status of the trees with regards to Tree Preservation Orders or Conservation Areas, however all the trees will be subject to the Forestry Act (see section 3.1) and all hedges subject to the Hedgerow regulations (see section 3.3). No trees or hedges should be felled, lopped, topped or in otherwise removed or damaged without prior permission from the relevant authority.
- 7.3 The survey recorded three individual trees and six groups of trees which were categorised as follows:

Category	Quantity
Category A: Trees of high quality and value in such a condition as to be able to make a substantial contribution (a minimum of 40 years)	0
Category B: Trees of moderate quality and value in such a condition to make a significant contribution (a minimum of 20 years)	4
Category C: Trees of low quality and value currently in adequate condition to remain until new planting could be established. Trees in this category would not usually be retained if they would pose a significant constraint to development.	3
Category U: Trees in such a condition that their existing value would be lost within 10 years and which should, in the current context be removed for arboricultural reasons.	2

Arboricultural merits and the significance of the trees in the landscape

- 7.4 The majority of the trees on the site are self-set specimens that are becoming established following the site becoming redundant. The area is developing as secondary woodland, with the most cohesive elements in the western section of the site. There are also a number of large specimen trees on land to east of the site. There are no veteran trees or areas of ancient woodland or ancient woodland sites on or adjacent to the site.



Arboricultural Impact of the Development

- 7.5 The proposal for the site will result in quite a significant change to the current land use. Also, there are several trees (identified as G4) are growing in amongst or adjacent to the remains of the historic building which are beginning to disrupt the structure and or would pose a threat to the building in the future. Therefore, it is proposed that a significant

number of existing trees are removed and that the site is subject to landscape planting to provide sustainable tree cover in the long term. The proposed layout will require the removal of one of category B individual tree (T6), and four groups of trees (G2, G3, G4 & G5) one category C, one category B and two category U. A small number of trees from G7 will also be removed where they are compromised by the adjacent road and car park. The trees for removal are not particularly significant specimens in terms of their public amenity value, being either of low quality or relatively young and / or of small stature. It is accepted that there will be some level of impact to the amenity of the area, however this will be mitigated through new tree planting on the site.

Landscaping of the Development

- 7.6 To mitigate the impact of tree loss associated with this development a tree planting scheme will form part of the landscaping of the provided as part of the new development. There is opportunity to undertake tree planting in the soft landscape area along the south boundary of the site adjacent to the road, which is in a prominent position that will contribute to the local landscape and provide a degree of screening for the site. There is also an opportunity to undertake enrichment planting to strengthen G7 as well as some additional new planting within the site. Any grant of planning permission can be conditional to a detailed landscape scheme being prepared and submitted.

Arboricultural Operations

Permission to remove any tree must be obtained from the Local Planning Authority and must not be undertaken until all pre-commencement conditions have been discharged.

- 8.1 Tree removal and pruning will be required, subject to a grant of planning permission, to implement this development. It is recommended that the work should be undertaken by a suitably qualified person, holding public liability insurance for the sum of £5,000 000. All operators must hold relevant NPTC certificates. A site specific risk assessment must be prepared and operators must work to a health and safety method statement. The use of Arboricultural Association Approved Contractors www.trees.org.uk/find-a-professional/Directory-of-Tree-Surgeons is recommended.
- 8.2 The contractor undertaking the work is responsible for any loss or damage arising as a result of the operations and agrees to indemnify the owner against such occurrences.
- 8.3 All tree protection measure specified in the following section and shown on the accompanying TPP are to be fully installed prior to the commencement of the arboricultural works. Where access is required to the trees, then suitable ground protection must be used in lieu of the tree protection fences.

Arboricultural Method Statement

- 9.1 This arboricultural method statement (AMS) sets out the details of tree protection measures afforded to the retained trees on and adjacent to the site.
- 9.2 This document should be read in conjunction with the Tree Protection Plan (TPP) ref: WFH/TPP/12/16, this indicates a Construction Exclusion Zone around the retained trees which is to remain undisturbed during the construction process and must be protected using suitable fencing or ground protection as specified.
- 9.3 Copies of the TPP & the AMS must be available on site and all tree protection requirements explained to all persons undertaking activities on the site during the site induction process.
- 9.4 All tree protection measures must be installed and inspected prior to bringing onto the site any plant, materials or equipment or undertaking any construction works or demolition or any arboricultural works. The LPA must be informed in writing once the tree protection measures are installed.
- 9.5 The site is to be inspected by the consulting arboriculturalist in accordance with the schedule of inspections.
- 9.6 All measurements are given in metric using standard abbreviations.

Fencing and Ground Protection

- 9.7 The TPP indicates the position all protective fences.
- 9.8 Protective fencing will comprise herras fencing panels securely fixed into place, or any alternative agreed with the Local Planning Authority.
- 9.9 Ground protection is to be used through the precautionary area and will consist of a proprietary system such as Ground Guard protective plates which must extend over the entire area indicated on the TPP and be securely fastened in place. The type of guard used must be suitable for loads up to 40 tonnes or more.
- 9.10 The protective fencing and ground protection must be inspected on installation and will remain in place until completion of the construction phase and then only removed with the consent of the LPA.
- 9.11 Other than works approved in writing by the LPA, no works including storage or dumping of materials shall take place within the exclusion zones defined by the protective fencing.

General Precautions

- 9.12 No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10m of the trunk of a tree that is to be retained or within any part of the CEZ. An emergency spill kit of appropriate capacity and suitable for use with all fuels, oils and chemicals brought on to site must be available at all times.

- 9.13 No fires will be lit within 20m of the trunk of any tree that is to be retained.
- 9.14 Storage and mixing areas must be outside the CEZ and must be identified prior to the commencement of the construction work. Contractor parking should be in areas indicated on the TPP. It may be possible to situate site huts and toilets within the CEZ, providing that they are:
1. Placed on load distributing pads.
 2. Can be positioned and serviced without coming into contact with the crown of the tree or allowing any vehicle to operate within the RPA.
 3. All services are connected above ground level.
 4. The buildings can be accessed from outside the CEZ or all routes are ground protected.
- The site buildings would then form part of the tree protection barrier.
- 9.15 Access to the work area is via the main site entrance and must not traverse the CEZ.
- 9.16 All service and drainage routes, below or above ground must avoid the CEZ. All services are to be installed in accordance with NJUG volume 4 Guidelines.
- 9.17 To ensure that all tree protection measures are properly installed it is recommended that the site be monitored by Shields Arboricultural Consultancy to the following schedule. Details of the findings and photographic evidence of the site inspection visits will be reported to the LPA by email within 24 hrs of the visit.

Schedule of Inspection

1. On completion of erection of fencing and installation of ground protection prior to commencement of development works
 2. Monthly throughout the project
 3. On completion of project
- 9.18 Prior to the commencement on site of any work, a competent person is to be appointed to monitor the day to day activities on site. In the case of a tree being damaged or where an unexpected event arises it will be for this person to contact Shields Arboricultural Consultancy to seek advice on contingency measures.

S.J.A. Shields

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Chartered Forester

13th December 2016

Arboricultural Assessment

Ref. No.	Species	Top Height	Stem Dia mm	N	E	S	W	CC (FSB)	Age	Rem Cont.	Cat.	RPA m ²	Notes	AIA
T1	Fagus sylvatica (Beech)	18	390, 310	4.6	5	7.3	5.1	2	EM	20+	C1	112	Condition: Fair Notes: Mature specimen, has weak fork in main stem.	Reasonably significant, downgraded because of weak fork. Will be retained and protected through the development.
G2	Chamaecyparis lawsoniana (Lawson Cypress)	12	320	2.5	2.2	2	2	1	M	10+	C1	46	Condition: Good Notes: Planted as a screening hedge for caravan.	Minor specimens do not make a significant contribution to the wider landscape or public amenity. Tree will be removed as part of the proposed development.
G3	Fagus sylvatica (Beech), Betula pendula (Silver Birch)	12	350	5	5	5	5	1.5	M	<10	U	55	Condition: Poor Notes: All trees have been topped and have poor form with significant levels of decay in upper stem. Remove	Tree in poor condition and will be removed as part of the proposed development.

G4	Fraxinus excelsior (Ash) Acer pseudoplatanus (Sycamore)	18	400	5	5	5	5	2	M	<10	U	72	Condition: Good Notes: Group of self-set trees growing amongst and adjacent to the existing historic building. Trees are beginning to disrupt structure and are not sustainable in this location. Remove	As G3
G5	Fraxinus excelsior (Ash)	14	250	2.5	2.5	2.5	2.5	2	SM	10+	C1	28	Condition: Good Notes: Row of semi-mature trees growing along bank edge adjacent to the road.	Group is in a reasonably prominent position but are relatively young and the amenity they provide could be replaced through new planting. Tree will require removal as part of the proposed development. Any loss of amenity will be mitigated through new planting on the site.
T6	Fraxinus excelsior (Ash)	16	400	4.9	5.1	5.2	5.7	2.5	EM	20+	B2	72	Condition: Good Notes:	Tree is in a reasonably prominent position but is relatively

														young and the amenity it provides could be replaced through new planting. Tree will require removal as part of the proposed development. Any loss of amenity will be mitigated through new planting on the site.
G7	Fraxinus excelsior (Ash) Acer pseudoplatanus (Sycamore)	14	350	5	5	5	5	2	M	20+	B3	55	Condition: Good Notes: Group of mixed species trees forming a small copse in the west of the site.	The group is reasonably prominent and will provide habitat for wildlife. Most the tree in the group will be retained and could be enhanced through enrichment planting.
T8	Acer pseudoplatanus (Sycamore)	16	300	3.5	3.2	4.1	3.5	3	M	20+	B2	41	Condition: Good Notes:	Tree is in a reasonably prominent position and has merit as an individual specimen adjacent to the G7. Tree will be retained and protected through the development.
G9	Fagus sylvatica (Beech)	1	650	4	5.5	8.4	5.2	2	M	20+	B2	191	Condition: Good	A small group of trees in a reasonably

BS 5837: 2012 provides the framework through which tree can be categorised in terms of their health, amenity value and long-term viability for retention on a development site. There are four categories, A,B,C & U.

- 1 Trees that are particularly good examples of their species, or essential components of groups or formal arboricultural features.
- 2 Trees, groups or woodlands that provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance.
- 3 Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

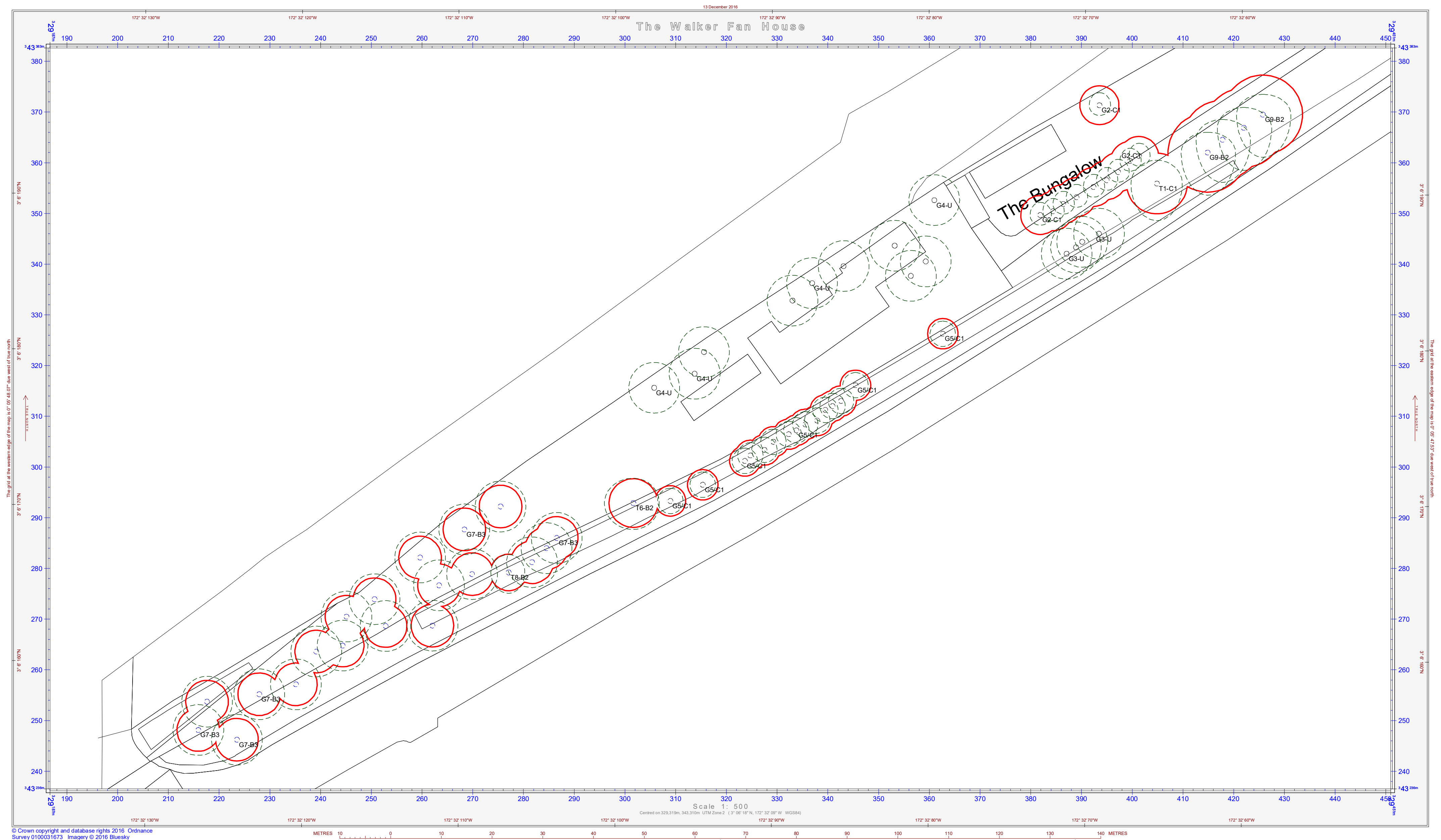
- 1 Trees that might be included in a higher category but are downgraded because of impaired condition.
- 2 Trees present in numbers, usually as groups of woodlands that form distinctive landscape features.
- 3 Trees with clearly identifiable conservation or other cultural benefits.

Category U: Trees in such a condition that their existing value would be lost within 10 years and which should, in the current context be removed for arboricultural reasons.

 Institute of
Chartered Foresters
Registered Consultant

Key

Tag No	Identification number for tree	Species	Species of tree
Top Height	Estimated height of tree	Stem Dia.	Diameter of stem at 1.5 metres
Stems	Number of stems	N, E, S, W	Crown spread at compass points
CC	Crown Clearance	FSB	Direction of first significant branch
Rem. Cont	Remaining safe life expectancy in years	RPA	Root protection area in m ²
Cat.	BS Category (see above)	AIA	Arboricultural Implication Assessment
Age	Y - Young Trees SM Semi Mature EM Early Mature M Mature LM Late Mature exceeds normal life expectancy for species VET Veteran Tree		
Condition	Good Relatively free from defects and / or major pests and diseases Fair Some defects, which could be addressed through tree surgery or minor pests or early symptoms of diseases Poor Substantial defects or terminal decline Dead Dead		



Shields Arboricultural Consultancy

Tree & Woodland Management Solutions

Tree Constraints Plan

The Walker Fan House
Ruabon

KEY

- Tree Cat B
- Tree Cat C
- Tree Cat U
- Canopy Spread
- RPA

Drawing No: WFH/TCP/12/16/01

Drawn By: S. Shields

Scale: 1:500 @ A2

Date: 13th December 2016

Revision:

Do not scale from this drawing all dimensions to be checked on site
Drawing is colour coded and a monochrome copy should not be relied upon

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Tree & Woodland Management Solutions

Tree Constraints Plan
Overlay
The Walker Fan House
Ruabon

- KEY
- Tree Cat B
 - Tree Cat C
 - Tree Cat U
 - G4 Canopy Spread
 - Trees for Removal
 - RPA

Drawing No: WFH/TCP/OL/12/16/01

Drawn By: S. Shields

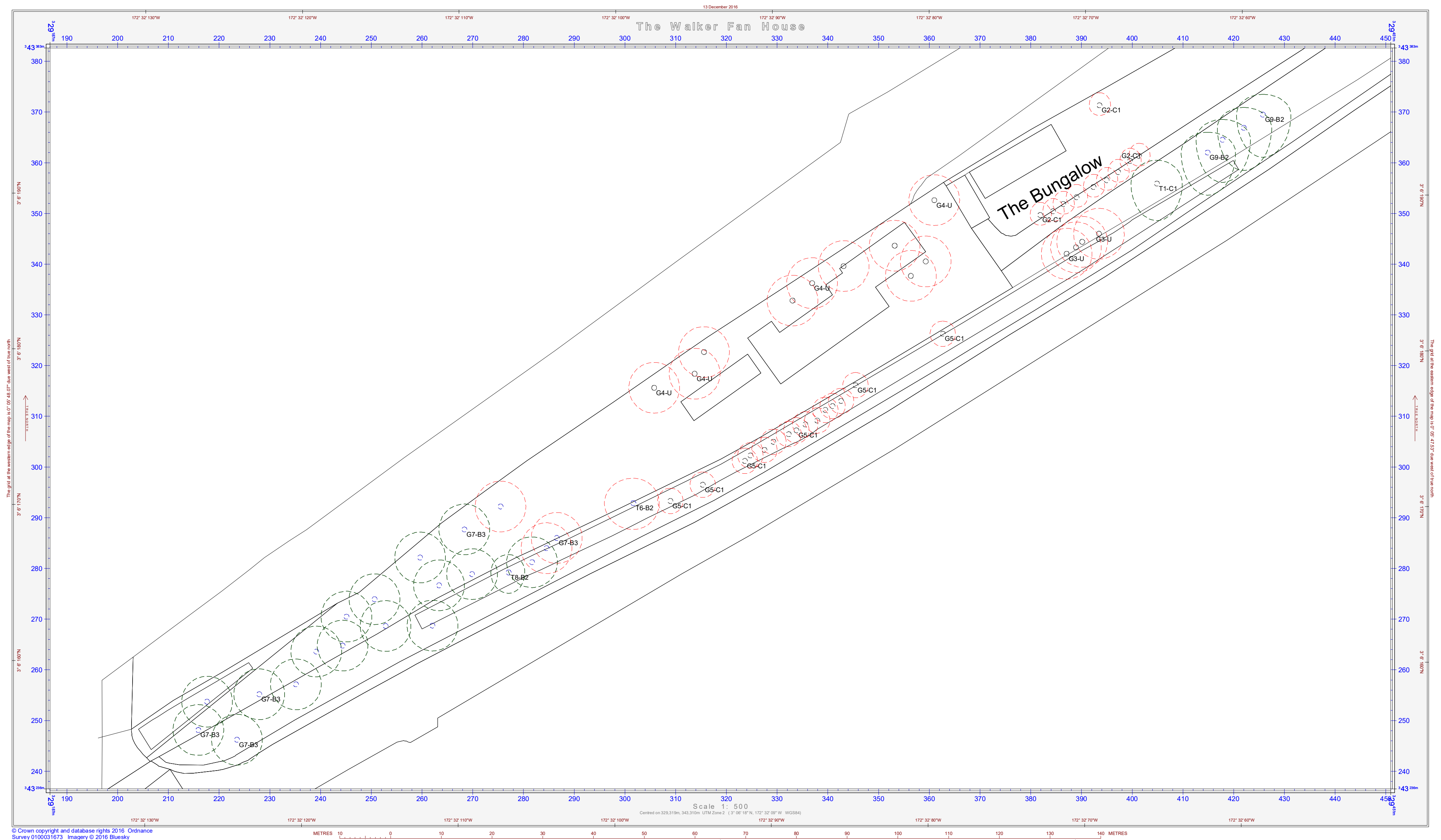
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Tree & Woodland Management Solutions

Tree Removal Plan

The Walker Fan House
Ruabon

KEY

	Tree Cat B
	Tree Cat C
	Tree Cat U
	Canopy Spread
	Trees for Removal

Drawing No: WFH/TRP/12/16/01

Drawn By: S. Shields

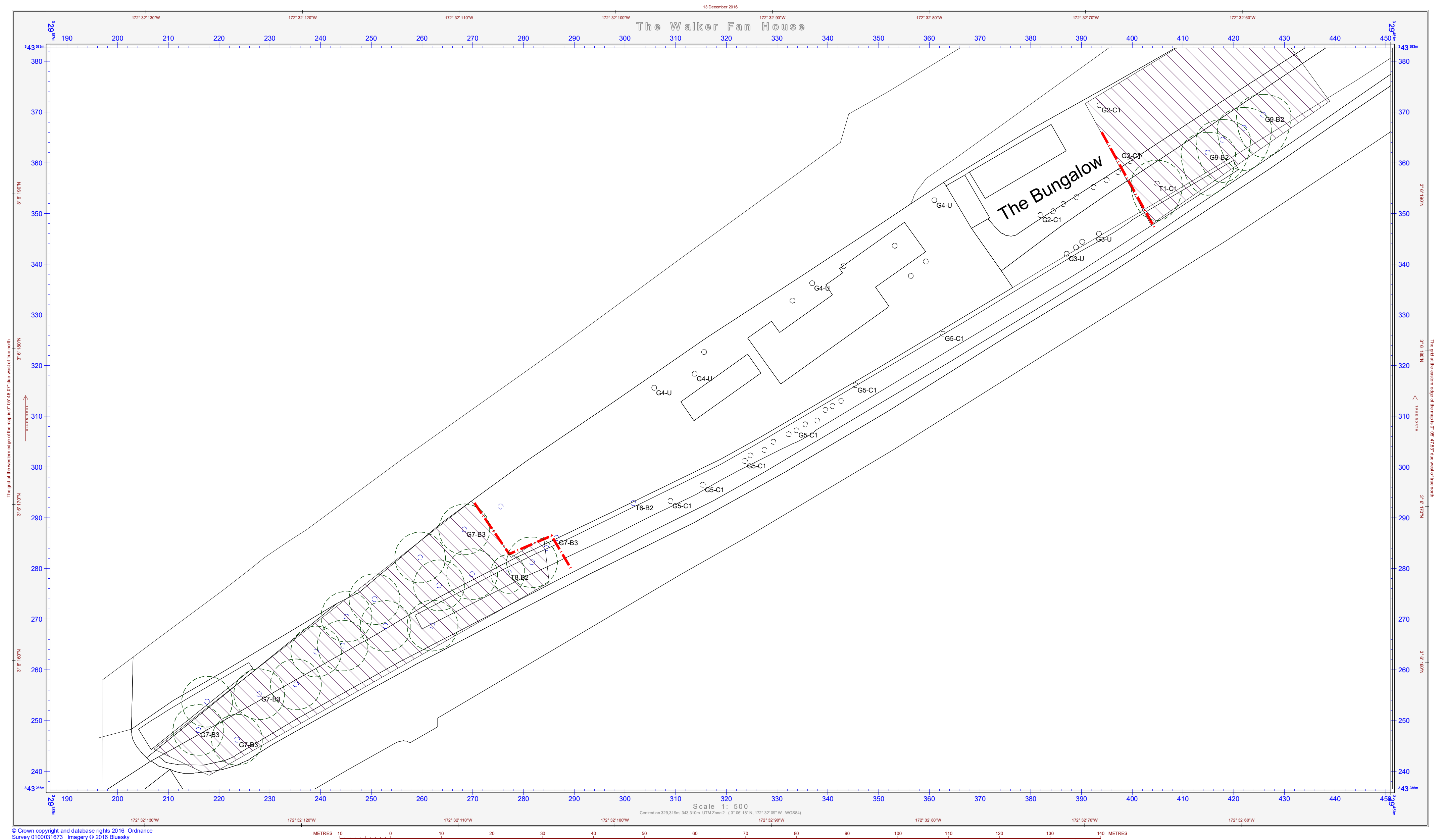
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Tree & Woodland Management Solutions

Tree Protection Plan

The Walker Fan House
Ruabon

KEY

	Tree Cat B
	Tree Cat C
	Tree Cat U
	Canopy Spread
	Trees for Removal

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